Curriculum Vitae: Dr. Pallavi Anand

1. Higher Education

PhD (Geochemistry), 2002, University of Cambridge, UK
MSc (Marine Geology), 1997, Banaras Hindu University, India
BSc Hons (Geology), 1995, Banaras Hindu University, India

2. Appointments and experience

2023 –	Chair of Research Degrees Committee, The Open University (OU), fixed term (0.1 fte)
2019 –	Senior Lecturer in Ocean biogeochemistry, Open University, full time, non-fixed term.
2018 – 21	Deputy Associate Dean of Postgraduate Research, STEM faculty, fixed term (0.5 fte).
2014 – 18	Postgraduate research tutor, Environment Earth and Ecosystem Sciences, fixed term (0.1 fte).
2011	Four months maternity break (September to December) with phase return (until March 2012).
2009 – 14	Postgraduate third party monitor, Department of Earth and Environmental Sciences.
2009 – 11	Residential school tutor/course director, Environmental Sc., Open University, fixed term.
2009 – 11	Residential school tutor, level one, Open University, fixed term.
2009 – 19	Lecturer in Oceanography, Open University, full time, non-fixed term.
2009	Residential school tutor, Sedimentary processes, Open University, fixed term.
2008	Residential school demonstrator, Geology, Open University, fixed term.
2008	Consultant on Oceanography module, Open University, fixed term.
2006 – 09	NERC Post-doctoral research associate (0.6 fte; childcare), Open University, fixed term.
2005 – 06	Post-doctoral research associate, (maternity break for 4 months and phase return at 0.1 fte to accommodate childcare) Vrije University, Netherlands, fixed term.
2003 – 05	Post-doctoral research associate, Vrije University, Netherlands, fixed term.
2002 – 03	Post-doctoral research associate, University of Cambridge, fixed term.

3. Research Funding

2022	**Co-I, Environmental Change theme on a large bid,** "The Wolfson Analytical Centre: Environmental Boundaries of Life" bid (£750,000), Wolfson Foundation
2022	**Co-PI,** Moratorium grant for IODP expedition 390 research (£54,505) Reconstructing South Atlantic Ocean Circulation changes across Eocene-Palaeocean (NE/X002039/1).
2021	**PI,** NERC Making Environmental Sc. equal, diverse, and inclusive (EDI) bid (£94,419) "Evaluating diversity and inclusion within the (geochemistry) academic ladder (E-DIAL)" (021EDIE032Anand)
2021	**PI**, UKRI Isotope Geoscience facility support grant (£32,550, '*Grant in kind'*; *successful*), Late Pliocene and early Pleistocene Indian Summer Monsoon variability in response to climate, 740 stable isotope measurements are requested (National Environmental Isotope Facility/NEIF reference number: 2470.1021).
2020	**PI**, UKRI Isotope Geoscience facility support grant (£28,350 '*Grant in kind'*), Late Pliocene and early Pleistocene Indian Summer Monsoon variability in response to climate, 375 stable isotope measurements are requested (National Environmental Isotope Facility/NEIF reference number 2315:0920).
2020	**Co-I**, UKRI Isotope Geoscience facility support grant (£37,850 '*Grant in kind'*) Reconstructing the South Asian monsoon during the dynamic Pliocene, 633 stable isotope measurements are requested (National Environmental Isotope Facility/NEIF reference number 2305:0920).
2020	**Co-I,** PhD studentship funding from Operation Wallacea £67,472 to support a studentship Integrating technological solutions to modernise the study and assessment of coral reefs
2019	**PI**, NERC Undergraduate Research experience placement grant £2,500 (*CENTA)*.
2018	**PI**, NERC Isotope Geoscience facility support grant (£20,000 '*Grant in kind'*) for isotopic measurements for the Pliocene Monsoon reconstruction in the northern Bay of Bengal (Facility grant reference number: IP-1839-1118) (http://www.bgs.ac.uk/sciencefacilities/laboratories/geochemistry/sif/News/2018/GrantsAwards2018.html)
2018	**PI**, NERC Isotope Geoscience facility support grant (£17,000 '*Grant in kind'*) for isotopic measurements of samples for the last interglacial monsoon reconstructions in the Andaman Sea (Facility grant reference number: IP-1838-1118)

2018 **PI,** Philanthropic funding (£84,692) for the Project Deep Blue to carry out phytoplankton and climate research (£40,201) and contribution to student's bursary for field school (£44,491)

2017 **PI**, NERC Isotope Geoscience facility support grant (£19,100 '*Grant in kind'*) for isotopic measurements (Facility grant reference number: IP-1701-0517)

2017 Outreach grant from Geological Society London and Microplaeontological Society to support Soapbox Science event (£500)

2016 **PI**, NERC Isotope Geoscience facility support grant (£13,600 '*Grant in kind'*) for isotopic measurements (Facility grant reference number: IP-1649-1116)

2016 **Co-I,** Service grant to the Oxygen isotope lab**,** NERC-IODP (IODP-Moratorium grant to Exeter) for £11,000 to support OU labs and enhance our research visibility in the UK

2016 **PI**, NERC small grant of £2,500 to support an undergraduate research placement "Reconstruction of changed in Indian Summer Monsoon precipitation" (OU ref 658686)

2015 **PI**, Cushman Foundation for £6,375 to support research on ocean acidification and bio-calcification project. Wrote the bid to the funder as PI (OU ref 473689)

2015 **PI**, NERC-IODP (eISM, NE/M021181/1) **(**£32,059) Indian Monsoon Reconstruction to carry out preliminary study on monsoon following on from my participation on International Ocean Discovery Programme

2015 **PI**, NERC Research placement grant £2,500 (Effect of salinity on shell calcification) to support an undergraduate student from quantitative discipline - Chemistry)

2014 **PI**, NERC (UKIODP), £400k (in kind) successful application to participate on an IODP expedition which costs 400k per participant to NERC.

2014 **PI**, NERC (UKIODP) ~£10k funding from NERC was supported staff time while I was onboard IODP expedition 353 in 2014-2015 for 8 weeks (invited to participate as a shipboard scientist)

2014 **PI**, NERC Research placement fund (£2500) for hosting an undergraduate researcher (What controls shell parameters in planktonic foraminifera).

2014 –18 **Co-I** of NERC Doctoral Training Partnerships (SE-12-182-SK), managed £364k DTP grant as PGRT

2013 **PI**, NERC UK Ocean Acidification Programme for a travel grant (£1000) to support postgraduate student (Kate Salmon)

2013 **PI**, OU Philanthropic funding (~£3500) for Ocean Acidification research project on "Understanding impact of Ocean Acidification in biocalcification"

2011 – 15 **Co-I**, OU-2011 NERC Doctoral Training Partnerships (SE-11-052-AC), 518k

2011 **PI**, NERC Ocean Acidification Programme grant, (£73,769) Understanding the Impact of Recent Ocean Acidification on Bio-Calcification

2009 **Recognised researcher** on NERC grant, (£425 k) "Quantifying the strontium budget of the oceans, past and present, using coupled Radiogenic and stable strontium isotopes". I was a recognised researcher on the grant (as NERC did not allow PDRAs to be a CO-I)

2006 – 12 NERC, £220k (pre full economic costing) "Weathering and Climate: New insights from the marine records of Li, Nd and Os. I was the named post-doc on the grant and provided input on foraminifera geochemical (trace element) proxies

4. Postgraduate research (PhD) supervision and examination

2021- NERC DTP funded studentship (CENTA2) (part-time), "Impact of microplastics on soil nutrients", Johanna Jesionkowska, co-supervisor

2021- STEM studentship, "The evolution of the Climate-Carbon Cycle through the Last Interglacial", Tim Cutler, co-supervisor

2019- NERC GW4 studentship, "Monsoon reconstructions across Plio-Pleistocene interval", Chloe Young, co-supervisor (external)

2018- Exeter University, "Investigating the evolution of the Indian Monsoon of the early Pliocene-early Pleistocene of the Bay of Bengal/Andaman Sea region", Jinrong Jan, co-supervisor (external)

2018-23 STEM- Philanthropic (Deep Blue) studentship, "Reconstructing Indian Monsoon driven productivity and stratification changes across the Plio-Pleistocene", Emmeline Gray, lead supervisor. (Minor corrections post viva) (Laboratory research manager at University of Bristol; since April 2023)

2018-23 NERC DTP funded studentship (CENTA), "Ocean structure and biological productivity of the Southern and Atlantic oceans during the early to Middle Eocene climatic transition",

Sophie Alexander, co-supervisor. 2023 award (Research assistant at the OU; since 2023)

2017- STEM-Operation Wallacea studentship (part-time), “Integrating technological solutions to modernise the study and assessment of Coral Reefs”, Shannon Cameron, co-supervisor

2017-22 NERC DTP funded studentship (CENTA), “Eocene Ocean circulation” Andrew McIntyre, co-supervisor. 2022 award (IODP Research Associate, University of Leicester; since 2022)

2016-21 STEM funded studentship “Pliocene Indian Summer Monsoon reconstruction”, Yasmin Bokhari Friberg, lead supervisor. 2022 award (Science Editor, Cactus Global; since 2021)

2015-19 NERC Doctoral Training Partnership (CENTA) funded studentship, “Cenozoic evolution of the Asian Monsoon: tectonic-climate interactions”, Kate Newton (Birmingham University), external co-supervisor. 2019 award (Research assistant, University of Birmingham; Since 2020)

2016-18 Operation Wallacea and OU funded studentship, “Restoration of the long-spined sea urchin, *Diadema antillarum*, to Caribbean coral reefs”, Max Bodmer, co-supervisor. 2018 award (Lecturer, Lincoln University; since 2018)

2016-17 NERC Doctoral Training Partnership (CENTA) funded studentship “Reconstructing Cenozoic evolution of Indian Monsoon in response to tectonic and climate” Anouk Klootwijk (withdrew due to research interest in modern ecology, before one year Upgrade) (completed PhD from University of Oslo, Norway)

2016-19 NERC Doctoral Training Partnership (CENTA) funded studentship “Reconstructing the Indian Monsoon response to global climate change”, Katrina Nilsson-Kerr, lead supervisor. 2015 award (Marie-Curie research Fellow, University of Bergen, Norway)

2011-15 NERC funded studentship “Ocean Circulation during Eocene extreme ‘greenhouse’ climate”, Adele Cameron, co-supervisor 2015 award

2011-15 NERC UKOAP funded “Controls on biogeochemical proxies and shell calcification in modern planktonic foraminifera”, Kate Salmon, lead supervisor. 2015 award (Met Office, UK; since 2015)

2009-13 NERC funded, “Variation in silicate weathering across the Oligocene-Miocene boundary: evidence from lithium and neodymium isotopes”. Joe Stewart (National oceanographic Centre, Southampton), co-supervisor. 2013 award (Senior Research Fellow, University of Bristol, UK)

2009-13 NERC funded studentship “Stable strontium isotope fractionation in marine and terrestrial environments”, Emily Stevenson was based at Oxford University, Emily Stephenson, external co-supervisor. 2013 award (Marie-Curie independent research fellow, University of Cambridge)

External PhD examination

2023 “*Late Neogene planktonic foraminifera distribution and surface ocean changes in the South Atlantic sector of the Southern Ocean”*, (Mr Nirmal B.) at School of Civil Engineering, Vellore Institute of Technology, Chennai, India.

2022 “*Planktonic foraminifera I/Ca ratios as a proxy for past seawater oxygen concentrations*” (Mr Helge Winkelbauer) at Herriot-Watts, UK (September ’22)

2022 “*Late Pleistocene orbital-scale Indian Summer Monsoon hydroclimates reconstructed using leaf wax hydrogen and carbon isotopes from the Northeast Indian margin and Andaman Sea*” (Ms Sarah McGrath) at Brown University USA (August ’22)

2020 **“***Tracing marine hypoxic conditions during warm periods using a microanalytical approach* (Ms Sha Ni) at Lund University, Sweden

2020 **“***Atmospheric CO2 across the Plio-Pleistocene”* (Ms Sophie Nuber) at Cardiff University, UK

2020 **“***The role of historical bleaching – can corals survive in a warmer world?”,* (Ms Heather Baxter) at Glasgow University, UK

2019 **“***Assessing the potential of stable calcium isotope ratios for paleotemperature reconstruction from studies of laboratory-precipitated inorganic carbonates and modern corals, fish otoliths and foraminifera”* (Mr Surajit Mondal) at Indian Institute of Science, Bangalore, India.

2018 **“***Indian Monsoon variability during the late quaternary as seem on the northeastern Arabian Sea”* (Mr. P. Balachandran) at Indian Institute of Technology, Kharagpur, India

2017 “*The application of single specimen foraminifera isotope analyses to investigate seasonality in the Southern Ocean”* (Ms Anna Mikis) at Cardiff University, UK

5. External academic activities

Membership of professional bodies

2023 – **Co-chair** of Diversity, Equity and Inclusion (DEI) committee of the European Association of Geochemistry, EAG.

2022 – **Co-chair** of The Palaeoclimate Society (PACS), UK.

2022 – **Invited** membership of Advancing Earth and Space Science (ESS, Global Geoscience Societies) of American Geophysical Union as Advocate for the ESS in Global and domestic policies.

2021 – 22 **Invited** committee membership to The Palaeoclimate Society (PACS) UK

2020 – 22 **Invited** to join Diversity, Equity and Inclusion (DEI) committee of the European Association of Geochemistry, EAG, (Liaison of EAG in the Geochemical Society DEI groups)

2019 Fellow of Geological Society London

2013 – 18 Committee member of Geochemistry Group of Geological Society of London

National roles at advisory bodies

2023 Invited to UKRI Future Leader Fellowship interview panel member (round 8).

2022 – 23 Advisory group/co-design member of NERC public dialogue on contemporary issues in Environmental Science

2022– 23 Membership appointment for the NERC Advisory Network (NAN) to provide advice across environmental science, innovation and public engagement to tackle major cross-sector challenges (June 2022- December 2023; successful through an open application process)

2022 **Invited** to join NERC 'Deep Dive' focus group to scope and assess future Scientific Support and Facilities in 'Marine and Polar' capability, selecting future science questions and UK's capital/infrastructure requirements for the next 5-10 yrs (March 2022).

2021 – **Invited** to join NERC Peer Review Panel C of the National Environmental Isotope Facility (NEIF) (May 2021)

2020 – 21 **Invited** to join NERC July 2020 standard grant evaluation panel A member (as an expert from outside of the NERC peer-review College)

Academic editorial work

2021 – 23 Associate Editor of Paleoceanography and Palaeoclimatology (American Geophysical Union)

2010 – Reviewer of National Science Foundation (USA) and DFG (German Science foundation), Multidisciplinary Centre (Belgium) grant applications etc.

2010 – Reviewer for research articles in leading Environment, Earth and Ecosystem journals such as EPSL, Paleoceanography, Biogeosciences, Geochemica Cosmochemica Acta

Organisation or substantial contributions to conferences

2023 **Co-convenor** of session Initiatives to advance Diversity, Equity and Inclusion in geochemistry at Goldschmidt 2023 (Leon, France; 9th to 14th July 2023)

2020 **Invited panellist for Geochemistry workshop** (Big stories from microscale investigations) organised by the Micropaleontological Society

2018 **Invited Science Committee member and UK lead** of Chapman Conference (American Geophysical Union) on "Evolution of the Monsoon, Biosphere and Mountain Building in Cenozoic Asia" to be held in Washington D.C., USA in January 2020

2018 **Invited International Theme coordinator,** International coordinator of theme *Evolution of Monsoon: Past, present and future* for 36th International Geological Congress 2020 (http://36igc.org/SecondCircular.pdf). Wrote the theme proposal and contributed to the symposia sub-theme details and invited international convenors for the symposia

2018 **Co-convenor** of Asian Monsoon and low-latitude climate session at Goldschmidt conference, wrote the session proposal for acceptance and then passed on the organisation responsibilities to an early career researcher to convene the session.

2017 **Convenor** of Asian Monsoon session at Goldschmidt conference, bringing community together to share IODP results from Monsoon legs for discussion. Wrote the session proposal and carried out full organisational and management responsibilities for convening the session.

Invited presentations and panel memberships

2024 Keynote speaker invitation for 3rd INQUA-MARE (INtegrated QUAternary MArine REcord at Sensitive Latitudes), San Jose, Costa Rica (9th-11th January 2024)

2023 Invited talk at American Geophysical Union Fall meeting (Sam Francisco) in session "Advances in Understanding Past Asian Monsoon Evolution and Impacts by Combining Models and Data"

2022 **Plenary presentation** at the 14th International Conference on Paleoceanography for theme 'Improving our understanding of a warmer world', (https://icp14.w.uib.no/program/speakers/)

2022 Panel member for two days event on "Pathways to Professorship -Inclusive Strategies for building a career in STEM", organised by Bristol University

2021 Invited speaker at global online Monsoon seminar series ("Drivers of Indian Summer Monsoon rainfall") (~50-100 attendees- live and recorded)

2021 Seminar speaker at Louisiana State University on Drivers of Monsoon rainfall.

2019 Invited speaker at the World Oceans Day event organised by Cambridge Conservation Forum Marine and the Cambridge University Marine Conservation Society (~50-70 attendees) (http://www.cambridgeconservationforum.org.uk/event/world-oceans-day-2019)

2019 Invited panellist for Female in Field: Challenges and Opportunities event organised by Geological Society, UK and USA (https://www.geolsoc.org.uk/GSL-100Years-Female-in-the-field) to celebrate 100 years of Geological Society Female Fellows. (~100 attendees)

2018 Invited presentation at British Antarctic Survey, Cambridge in a workshop bridging science, policy and business to explore solutions for reducing plastic waste and panel discussion at "Plastics in the Ocean: Challenges and solutions" (https://www.bas.ac.uk/event/plastics-in-the-ocean-challenges-and-solutions/). I was invited to share knowledge from Blue Planet II under the category of Underpinning Solutions. (Presentation of plastic issues and exhibition of Oceans poster at this event) (~100 attendees)

2018 Invited speaker for a STEM outreach event "Growing from your STEM", part of the Inspiring Women Campaign, organised by the Department for Business, Energy & Industrial Strategy, UK. Organised workshop on UN Climate Change country negotiations with colleagues at BEIS (>100 attendees)

2017 Seminar speaker at India IODP centre (NCAOR, Goa, India) Indian Summer Monsoon evolution: results from IODP expedition 353. (>100 attendees)

2017 Seminar speaker at Indian Institute of Science (IISc, Bangalore, India) on Biogeochemical proxies approach to palaeoceanography. (>50 attendees)

2017 Invited presentation at IODP Land-Ocean interaction workshop (Providence, USA) on tectonic scale monsoon evolution: results from IODP expedition 353. (~100 attendees)

2017 Keynote talk at annual UKIODP meeting (Birmingham, UK) on Indian Summer Monsoon evolution: summarising results from IODP expeditions 353, 354 and 355. (~50 attendees)

Awards

2022 Runner-up in Open University Research Excellence Award under EDI category

2017 Research impact team award Blue Planet II (The Open University)

2017 Teaching team award (The Open University)

2016 Teaching team award (The Open University)

2015 Merit award (The Open University)

2001 Outstanding student paper award American Geophysical Union Fall meeting, EOS 83.

2001 Cambridge Nehru Fellowship award for a PhD at Cambridge University.

1997 Gold Medal for first rank in MSc. Geology, Banaras Hindu University, India

1996 – 97 La-Touché Medal (MSc. 1st year) by Mining, Geological and Metrological Institute of India.

1996 Gold Medal for Palaeontology (MSc. 1st year), Banaras Hindu University, India

6. Outreach and public engagement activities

2019 Conversation article to discuss published research of my PhD student on Indian Summer Monsoon (https://theconversation.com/indian-summer-monsoon-amplified-global-warming-130-000-years-ago-helping-end-ice-age-113504). 16 publishers have republished this article and it has >39k read.

2015 – 18 Academic adviser on landmark BBC one series “Blue Planet II” with special contribution to the final episode in shaping the narration of one of the key future challenges (Ocean Acidification) for our Oceans. NERC funded research on Ocean Acidification contributed to one of the future challenges, reflecting direct research impact in the series. This series had over hundred million viewing (including live, narrative repeats, iPlayer and time-shift episodes).

2016 – 18 Over half million poster copies (*Oceans*) produced at the back of the programme were distributed worldwide. I wrote content for two panels of the back of the poster (‘Ocean acidification’ and ‘Invisible plankton’) and contributed to the general design and overall content of the poster. (https://www.open.edu/openlearn/tv-radio-events/tv/blue-planet-ii)

2017 Radio interview for BBC three county to talk about key highlights of the Blue Planet II, after the broadcast of first episode of the programme. (BBC Three Counties Radio has a weekly reach of 170k audience.)

2017 Led a Conversation article to discuss use of algae as an alternative sustainable food source in the changing future climate with limited availability of seafood, highlighting innovative vision (https://theconversation.com/uk/topics/edible-algae-41557). 13 publishers have republished this article and it has >11k read

2017 Brief presentation to OU Vice Chancellor’s Executive on Research-partnerships-digital innovation and student and social engagements to highlight ongoing Ocean research and how these have underpinned partnerships (co-production of Blue Planet II, an OU-BBC partnership), digital innovation (Wolfson project for producing virtual oceans field work), teaching and engagement with OU students (labcast to talk about Blue Planet II) and the public (e.g., Oceans poster distribution and Soapbox science).

2017 Soapbox Science Milton Keynes speaker and invited talk at 500 Women in Science at London pod. I secured external outreach grants from the Geological Society, London and the Micropalaeontological Society to support my Soapbox activities.

2014 – 15 Invitation to participate in International Ocean Discovery Programme Expedition 353 through an open competitive application process.

2012 – Mentor and promoter of Nuffield Research Student (A-level) placements for giving an opportunity to experience STEM research to disadvantaged students (Equity). Some wrote blogs to capture their experience to evidence our commitment to science engagement (e.g. Badejo 2018 - http://www.open.ac.uk/blogs/per/?p=8051; Patel, 2015 - http://www.open.ac.uk/blogs/per/?p=6463; Mundy, 2014 - http://www.open.ac.uk/blogs/per/?p=4922)).

2010 – Host year 10 students for one week research placements, giving them hands on science experience. Additionally, contributions include speaking at MK and national Science festivals.

7. Contributions to institutional administration and management

2023 – Chair of the Research Degrees Committee, responsible to Research Committee for strategy, policy and regulations relating to research degrees and higher doctorates. A key strategic role in the development and governance of institutional PGR provision.

2022 – **Equality Diversity Inclusion and Accessibility (Gender) lead and Athena SWAN Chair (School)**: Responsible for implementing Athena Swan action points (renewal of Athena SWAN Bronze award).

2020 Organiser of **Mental Health First Aid** (MHFA) training course for STEM postgraduate research tutors and third-party monitors to ensure that there are 2-3 MHFAs available in each School for supporting PhD students and supervisors.

2019 – Member of Research Degrees Examination Result Approval Committee (RDRAC)

2018 – 21 *Deputy Associate Dean* of Postgraduate Research in the STEM faculty, providing induction to new students, management of postgraduate student progression and support to postgraduate research tutors in STEM schools. Additional responsibilities of reviewing/updating STEM contribution to University’s annual institutional monitoring (AIM) report

2014 – 18 *Postgraduate Research Tutor* in the department/school of Environment Earth and Ecosystem Sciences, postgraduate administration and management of first year probation, annual seminars and six-monthly progress reports and training opportunities. Additional initiatives for regular bi-annual support meetings for supervisors (academic staff) were also organised to share best practise in student supervision and management (representing

voice for postgraduate students' need in training, funding and support at school level committees)

2017 – 18 Palaeoenvironmental change research group lead in the school and contribution to the research management meetings.

2012 – 17 Member of University STEM gender equality group (formerly Athena SWAN team)

2016 Contributor to the successful renewal of the Athena SWAN institutional Bronze award

2010 – 17 Recruitment and selection panel members for PhD students in the School and postdoctoral research fellows in STEM faculty (including Research Investment Funded fellows)

2010 –14 Third-party monitor/mentor for PhD students in EEES. I provided pastoral support to students and supervisory team when met with relationship challenges.

2010 – 20 Member of panel for recruitment and selection of PDRA, including Research investment Fellows, and Lecturer position candidates in EEES

2012 – 13 Self-assessment team members responsible for providing data for on-going support and networking opportunities within the Science faculty for the Athena SWAN institutional Bronze award narrative. Contributor to the successful bid for Athena SWAN institutional Bronze award

2008 – 18 Contribution to PhD mini-viva in STEM faculty (2008 – 2010) and PhD thesis examination as an internal examiner (2013) and Exam Panel Chair (2017 in EEES; 2019 in KMi and EEES).

8. Contributions to teaching

2023 – **Environmental Science (60 credits)** Supporting Biogeochemical Cycles block (5 weeks of study material)

2021 – **Science in Practise (60 credits)** Core team member of module presentation: responsible for production of assessment materials and supporting students and Associate Lecturers in producing tuition material; Live labcast (Oceans' contributions to climate via phytoplankton photosynthesis).

2016 – 18 **Environment: responding to change (60 credits)** Production Module team member, Lead author of project block, delivering content, skills and assessment design and materials relevant to research project. Block lead author of the Project content and skills, responsible for embedding accessible choice for project topics (Sustainable diet in addition to planned Biodiversity) and introducing key employability skills (collaborative working, report writing for specialist and non-specialist audience, data analysis and presentation) in the module and end of module project assessment design during the module production. In the first presentation the added project choice on Sustainable diet is being taken up by ~40% of student cohort.

2018 – 19 **Openlearn** Organised educational materials covering a series of bite-size topics (~8 at introductory level) to follow Golden Globe Race 2018 with aim to raise undergraduate bursary funds to support students to achieve educational dreams of underprivileged students at the Open University (https://www.open.edu/openlearn/science-maths-technology/across-the-sciences/golden-globe-ocean-race).

2016 – 18 **Earth System Processes (60 credits)** Core team member of presentation responsible to produce assessment materials and supporting students on the forum and Associate Lecturers (AL) in producing tuition material for Oceans block. Supporting students and ALs in delivering geochemical (chemical reactions) and mathematical concepts (Box Model) in the module.

2015-17 Led production of **Virtual Oceanographic Field Trip** assets funded by Wolfson Foundation in collaboration with Learning and Teaching Solution team. I led two assets on Coral reef and hydrothermal vent system and contributed 60% of the first asset of Seawater composition by providing data for the asset. These were embedded as an optional material to enhance student experiences on Oceans study block.

2017 – 18 **Environmental Science (60 credits)** Production team member for re-rewriting module for the online delivery. Specific responsibility includes reduction of content and re-write of the Earth block to provide balanced workload for students and make module fit for online delivery. Examination and Assessment Board member. Specific responsibility for delivering national tutorial on Earth block (on chemical reactions of weathering, clay mineral formation and complex structure of clay minerals and soil chemistry), production of assessment materials and exam marking.

2017 – 18 **Environment: sharing a dynamic planet (60 credits)** Presentation module team

member. Specific responsibility for Block 3 and production of annual continuous assessment and examination assessment materials.

2013 – 15 **Science and society (60 credits)** Production team member. Specific responsibilities of planning and design of the Climate Change block and contribution to the planning and design of the module during early stages of the production.

2012 – 14 **Ocean Sciences** (**30 credits**) Production module team member. Specific responsibility for authoring block 1 content to near hand-over state (module was paused due to curriculum review).

2009 – 16 **Oceanography (30 credits)** Presentation module team member. Specific responsibilities for supporting one third of the module content and production of continuous and examination assessment materials; Chair of Examination and Assessment Board for the module (main and resit).

2012 – 14 **Practical Sciences (60 credits)** Presentation of module team member. Specific responsibility of supporting students on Water block.

2010 – 14 **Dynamic planet (60 credits)** Presentation module team member. Specific responsibility for half of the module content support to students and ALs. Production of continuous and examination assessment materials; Chair of Examination and Assessment Board for the module (2013-14).

2004 – 05 MSc lectures on Biogeochemical cycles and climate to approximately 50 students at Vrije University, Netherlands.

1999 – 02 Undergraduate demonstrator for practical courses in second level Geological sciences and third level Oceans and Climate courses at Cambridge University, UK.

Residential schools

2009 – 11 Investigating the environment. Led the activity on Earth Sciences and Ecology (group tutor)

2009 – 11 Environmental Science in field, OU tutor at Malham and Preston Montford field studies council courses.

2014 – 16 Practical sciences, I was the forum tutor for Hydrology and meteorology

2009 – 10 Sedimentary processes, Demonstrator, Durham residential school.

2008 – 10 Earth Sciences, Demonstrator, Durham residential school

9. Contributions to staff and student support

2022- 23 Adviser of Dr Andrew McIntyre, post-doctoral research associate on IODP project on Ocean Circulation to work on expedition 390 materials (NE/X002039/1)

2021-23 Co-ordinated Nuffield placement for A level students from disadvantage background across STEM: Using online platform, in 2021 seven students (in Physics, Chemistry and Earth and Environmental Science) and in 2022 twelve A level students received research placements.

2021 – Module: Science in Practise - Online support to students and tutors on forum for the bi-annual presentations. Live labcast on Topic 3 (Oceans' contributions to climate via phytoplankton photosynthesis). Support students' queries following labcast.

2021- Research links established between California Academy of Sciences (CAS) and the Open University (IET and EEES) in 2021. This initiative continues to support academics in EEES and IET to jointly co-host funded studentships from CAS.

2020-21 Mentor of postdoc in the School of Environment Earth and Ecosystem Sciences

2018 – 20 Co-host of Marie Curie research fellow on EARNEST (Examining the Agroforestry Landscape Resilience in India to inform Social-Ecological Sustainability in the Tropics) project (with the OU lead Prof. Shonil Bhagwat, in the faculty of Social Sciences).

2017– 18 Lead of Palaeoenvironmental change research group in the School (EEES). I initiated and organised fortnightly Palaeoenvironmental research Group meetings to enhance interactions between staff and PhD students working within the research group.

2013 – 16 Life experience mentor of Daphne Jackson fellows at the faculty level (Environment Earth and Ecosystems and Physical Sciences). Supported research fellows during the application process and start of their fellowship career. These fellows have now been integrated in respective disciplines of the faculty.

2021 Supported two STEM/EEES PhD students for the Voice of the future 2021. Our participation was aligned for the REF Impact Case Study 2021 (Blue Planet II) that I was one of team members of.

2018 Initiated PhD students to describe their research projects for wider audience through writing an Openlearn articles in PhD101 (https://www.open.edu/openlearn/science-maths-technology/geology/environment-earth-and-ecosystem-sciences-phd-projects-101) (>1000

views).

2017 Early adopters of Mental Health support for STEM students, supervisors and support staff.

2014 – 18 Provided 1st year induction, bi-annual training opportunities, monthly drop-in-sessions for postgraduate students as a School postgraduate tutor.

10. PUBLICATIONS

https://scholar.google.com/citations?hl=en&user=DBD7sG8AAAAJ

*(Publications by MSc/PhD students are italicised; * describes contribution to each publication)*

Equity Diversity and Inclusion

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